

551.506 (261.1) WEATHER OF NORTH AMERICA AND ADJACENT OCEANS. NORTH ATLANTIC OCEAN.

By F. A. YOUNG.

The weather over the North Atlantic during the month of October, taken as a whole, was most unusual. The average pressure for the month was considerably below the normal at land stations on the coast of Newfoundland and in the Azores; it was above in the British Isles and not far from normal on the American coast and at the Bermudas.

The number of days with winds of gale force was very much greater than usual over the western portion of the steamer lanes, and also in the Caribbean Sea and West Indies, as well as in the region between the Bermudas and the coast of Florida.

On October 1 and 2 there was a well developed low central near latitude 48° N., longitude 30° W. On the 1st moderate northerly and northwesterly gales prevailed in the western quadrants, while on the 2d the storm area extended as far south as the Azores. Storm logs follow:

British S. S. *Vasconia*:

Gale began on the 1st, wind NW. Lowest barometer 29.11 inches at 3 p. m. on the 1st, wind NW.; position, latitude $47^{\circ} 10'$ N., longitude $36^{\circ} 42'$ W. End of gale on the 2d. Highest force of wind 10; shifts NW.-N.

Dutch S. S. *Van Rensselaer*:

Gale began on the 2d, wind W. Lowest barometer 29.43 inches at 8 a. m. on the 2d, wind NW.; position, latitude $39^{\circ} 34'$ N., longitude $30^{\circ} 45'$ W. End of gale on the 2d, wind NNW. Highest force of wind 9, NW.; shifts WNW.-NW.

From the 2d to the 5th there were no well-defined lows, although a number of reports were received from vessels, in widely scattered positions, that encountered moderate gales during that period. On the 6th the first of the severe disturbances of the month in this locality, appeared off the coast of Newfoundland. In the morning the barometer at St. Johns read 28.96 inches and violent gales were reported by a number of vessels between the 40th and 52d parallels and the 40th and 60th meridians. This low moved rapidly toward the northeast and on the 8th the center was apparently not far from Iceland, although it was impossible to determine its position accurately on account of lack of observations. Storm logs follow:

British S. S. *Manchester Merchant*:

Gale began on the 6th, wind W. Lowest barometer 29.05 inches at 6.30 a. m. on the 6th, wind W.; position, latitude $47^{\circ} 28'$ N., longitude $50^{\circ} 43'$ W. End of gale on the 7th, wind WSW. Highest force of wind 11, W.; steady from W.

American S. S. *Dirigo*:

Gale began on the 7th; position, latitude $54^{\circ} 47'$ N., longitude $29^{\circ} 50'$ W. At 4 a. m. on the 7th, wind WNW., 7; barometer 29.38 inches. At 8 a. m., WSW., 8; 29.49 inches. At 4 p. m., WSW., 9; 29.54 inches. At 8 p. m., W., 9; 29.62 inches. End on the 9th, wind N.; position, latitude $51^{\circ} 22'$ N., longitude $37^{\circ} 20'$ W.

American S. S. *Ipswich*:

Gale began on the 6th, wind S. Lowest barometer 28.98 inches at 4 p. m. on the 6th, wind SW., 11; position, latitude $50^{\circ} 35'$ N., longitude $44^{\circ} 34'$ W. End of gale on the 7th, wind SW. Highest force 11, SW.; steady from SW.

On the 9th there was a disturbance central near the west coast of Newfoundland, and southerly gales prevailed over a limited area between the 40th and 45th parallels. On the same day northerly gales accompanied by high barometric readings were encountered by vessels in the vicinity of the Azores, and the land station at

Horta reported, wind N., force 8; barometer 30.22 inches. Storm log:

American S. S. *New Britain*:

Gale began on the 8th, wind, SSE. Lowest barometer 29.80 inches at 8 a. m. on the 8th, wind S, 6; position, latitude $41^{\circ} 30'$ N., longitude $58^{\circ} 12'$ W. End of gale on the 9th, wind S. Highest force 9, S.; shifts SSE.-S. by W.

From the 14th to the 16th a disturbance of limited extent moved slowly along the coast from the south of Florida to Hatteras. It then curved eastward, increasing in extent and velocity, and on the 21st the center was a short distance northwest of the Azores. Storm logs follow:

American S. S. *F. D. Asche*:

Gale began on the 13th, wind NE. Lowest barometer 29.80 inches at 4 p. m. on the 16th, wind NE., 9; position, latitude $34^{\circ} 19'$ N., longitude $75^{\circ} 03'$ W. End on the 17th, wind NE. Highest force 9, NE.; steady from NE. Heavy rain squalls with rough and confused sea.

American S. S. *Colorado Springs*:

Gale began on the 17th, wind SE. Lowest barometer 29.17 inches at 6 a. m. on the 18th, wind SW., 8; position, latitude $39^{\circ} 06'$ N., longitude $58^{\circ} 51'$ W. End of gale on the 18th, wind NNW. Highest force 9; shifts SE.-W.-NNW.

American S. S. *Chickasaw*:

Gale began on the 19th, wind NE. Lowest barometer 29.24 inches at 6 a. m. on the 19th, wind NE., 10; position, latitude $40^{\circ} 30'$ N., longitude $48^{\circ} 26'$ W. End at midnight on the 19th, wind NE. Highest force 11, NE.; shifts not given.

American S. S. *Saguache*:

Gale began on the 19th, wind SE. Lowest barometer 29.26 inches at 3 a. m. on the 21st, wind SE.; position, latitude $41^{\circ} 35'$ N., longitude $31^{\circ} 40'$ W. End of gale on the 22d, wind NNE. Highest force 12; shifts SSE.-NNE.

On the 22d the region between the 40th and 52d parallels and the 40th and 55th meridians was covered by strong southerly to westerly gales, due to a depression apparently centered over Labrador. This disturbance must have moved rapidly northward during the next 24 hours, as it had disappeared by the 23d. Storm logs follow:

British S. S. *Barbadian*:

G. M. N. position on the 22d, latitude $42^{\circ} 48'$ N., longitude $52^{\circ} 18'$ W. A squall of gale force from SW., lasting from 8 to 10 a. m.

Swedish S. S. *Carlsolm*:

Gale began on the 22d, wind SE. Lowest barometer 29.24 inches at 10 p. m. on the 22d, wind S., 7; position, latitude $50^{\circ} 50'$ N., longitude $45^{\circ} 13'$ W. End on the 24th, wind WSW. Highest force 10; shifts S.-WSW.

The tropical hurricane from the 22d to the 29th is fully described elsewhere (see pp. 567-570). Charts IX to XIV cover the period from the 24th to the 29th, inclusive, and it can be seen from a glance at them that this disturbance was most unusual in many respects, especially for so late in the season. Storm logs follow:

Japanese S. S. *Yuri Maru*:

Gale began on the 22d, wind E. Lowest barometer 29.44 inches at 9 p. m. on the 22d, wind E.; position, latitude $19^{\circ} 39'$ N., longitude $84^{\circ} 20'$ W. End on the 23d, wind SSW. Highest force 10, shifts not given.

American S. S. *El Estero*:

6 p. m. 24th, position, latitude $25^{\circ} 36'$ N., longitude $84^{\circ} 24'$ W.; barometer 29.11 inches; wind E., 12; rain. 10 p. m. lowest reading, 27.84 inches. Wind calm for 30 minutes, then started again veering to SE. 3 a. m., 25th, wind SW. and moderating. From 8 p. m. to 10 p. m. on the 24th wind about 110 miles an hour with heavy rain.

The barometer on board the *El Estero* has been recently compared, and is apparently reliable, so the most unusual reading of 27.84 inches (corrected) is probably very nearly correct.

American S. S. *El Valle*:

10 a. m., 24th; position, latitude 26° N., longitude 86° 18' W.; barometer 29.69 inches; wind E., 9; rain. 7 p. m., 24th; position, latitude 25° 36' N., longitude 85° 30'; barometer 29.32 inches (lowest); wind N., 10; overcast. Wind shifted to fresh NE. gale at noon, then gradually to NNE. and N., whole gale. At 8 p. m. gradually decreased.

Danzig S. S. *Baltic*:

Gale began on the 24th, wind E. Lowest barometer 28.33 inches at 3 a. m. on the 24th, wind E., 12; position, latitude 24° N., longitude 85° 10' W. End on the 25th, wind S. Highest force 12, E.; shifts not given.

American S. S. *Westland*:

Gale began on the 23d, wind SE. Lowest barometer 29.48 inches at 11 p. m., on the 23d, wind SE., 11; position, latitude 25° N., longitude 81° 40' W. End on the 25th, wind N. Highest force 11; shifts SE.-E.-ENE.-NNE.-N.

American S. S. *El Sol*:

Twenty-fifth, overcast sky with heavy rain squalls and fresh east winds to strong east, south, and SSW. gales with heavy sea. Lowest barometer 29.52 inches at 3 p. m. At 5 p. m. barometer began to rise, and wind moderate. Midnight strong SW. winds; barometer 29.72 inches. Position at 7 p. m. on the 25th, latitude 25° 30' N., longitude 80° 02' W.; barometer 29.60 inches; wind S. by W., 8; rain.

American S. S. *F. D. Asche*:

Gale began on the 25th, wind ESE. Lowest barometer 29.27 inches at 2 p. m. on the 26th, wind SW.; position, latitude 27° 30' N., longitude 78° 30' W. End on the 27th, wind WNW. Highest force of wind 12, SE.; shifts SW.-SW. by W. Oct. 26, frequent passing ugly and very dark low clouds with heavy rain and violent wind. Also several waterspouts.

American S. S. *Acme*:

Gale began on the 25th. Lowest barometer 29.60 inches at 2 p. m. on the 25th; position, latitude 30° 35' N., longitude 79° 12' W. End on the 27th, wind E. Highest force 10, E.; shifts E.-NE.

American S. S. *General W. C. Gorgas*:

On the 26th at 7 p. m.; position, latitude, 29° 48' N., longitude 73° 52' W.; barometer 29.60 inches; wind E., 8; rain. On the 27th, 7 p. m., position, latitude 30° 06' N., longitude 73° W.; barometer 29.75 inches; wind, NE., 10; rain.

British S. S. *Magellan*:

Gale began on the 26th, wind, S. Lowest barometer 29.26 inches at 2 p. m., on the 27th, wind, SW., 11; position, latitude 27° 45' N., longitude 73° 11' W. End on the 28th. Highest force of wind 11, SW.; shifts, SW.-WSW.-W.-WNW.

American S. S. *Aryan*:

Gale began on the 27th, wind, SE. Lowest barometer 28.96 inches at 1 p. m., on the 27th, wind, ESE., 9; position, latitude 28° 20' N., longitude, 70° 30' W. End on the 28th, wind, ENE. Highest force 12; shifts, ESE.-E.-ENE.-NE.

American S. S. *Saguache*:

Gale began on the 28th, wind E. Lowest barometer 29.56 inches, wind E., 9; position, latitude 27° 14' N., longitude 64° W. End of gale on the 29th, wind N. Highest force 11; shifts E.-ENE.

On the 26th there was a Low central about 150 miles east of St. Johns, Newfoundland, that remained nearly stationary during the remainder of the month. It reached its greatest intensity on the 29th, and on that date the center was near St. Johns, where a barometer reading of 28.94 inches was recorded. According to press reports this was the most severe storm experienced in the vicinity of Newfoundland in over 60 years, 13 vessels being wrecked, while there were numerous other casualties on both land and sea. Charts XI to XVI show the conditions that existed from the 26th to the 31st, inclusive,

and will give an idea of the intensity and extent of this disturbance. Storm logs follow:

Belgium S. S. *Kremlin*:

Gale began on the 26th, wind SSE. Lowest barometer 28.53 inches at 9 a. m. on the 26th, wind WNW.; position, latitude 47° 04' N., longitude, 45° 05' W. End on the 30th, wind WNW. Highest force 10; NW.-SW.

British S. S. *Mackinaw*:

Gale began on the 27th, wind NNE. Lowest barometer 28.91 inches at 2 p. m. on the 29th, wind NNE., 11; position, latitude 43° 45' N., longitude 55° 02' W. End on the 31st, wind NNE. Highest force 12; shifts N.-NW.-W.

British S. S. *Vasconia*:

Gale began on the 28th, wind W. Lowest barometer 28.64 inches on the 29th, wind NNW., 11; position, latitude 43° 33' N., longitude 52° 38' W. End on the 31st. Highest force 11; shifts NW.-WNW.-N.

British S. S. *Turcoman*:

Gale began on the 28th, wind NNE. Lowest barometer 29.60 inches on the 29th, wind NNE.; position, latitude 52° N., longitude 54° 30' W. End on the 30th, wind NNE. Highest force 11; steady from NNE.

Belgium S. S. *Gothland*:

Gale began on the 31st, wind N. Lowest barometer 29.12 inches at 10 a. m. on the 31st; position, latitude 44° 25' N., longitude 49° 50' W. End on November 1, wind N. Highest force 9; shifts N.-NW.

From the 27th to the 31st a number of reports were received from vessels in the region between the Azores and the Bermudas that encountered winds of gale force, as shown by Charts XII to XVI, inclusive. Storm logs follow:

British S. S. *Nubian*:

Gale began on the 26th, wind SSW. Lowest barometer 29.56 inches at 3.45 a. m. on the 27th, wind NE.; position, latitude 32° 50' N., longitude 52° 05' W. End on the 28th, wind ENE. Highest force 8; shifts SSW.-WNW.-NE.

British S. S. *Kabinga*:

Gale began on the 28th, wind SSE. Lowest barometer 29.32 inches at midnight on the 30th, wind WSW., 10; position, latitude 36° 06' N., longitude 39° 45' W. End on November 1. Highest force 11; shifts W.-SW.-NW.

American S. S. *Edgefield*:

At 10 a. m. on the 31st, wind WNW., 8; barometer 29.53 inches, 1 p. m. wind W., 7; barometer 29.62 inches; position, latitude 37° 45' N., longitude 33° 20' W. 4 p. m. wind SSW., 6; barometer 29.66 inches. Shifts of wind very erratic, changing from one direction to another in a minute's time and blowing with equal force. Sea confused.

551.506 (265.2)
NORTH PACIFIC OCEAN.

By F. G. TINGLEY.

October weather on the North Pacific Ocean was chiefly characterized by four disturbances of tropical origin¹ which moved northward one after another in different parts of the ocean. The first of these was the typhoon which appeared to the south of Guam Island on the 2d. This traveled in a northwesterly direction during the following three days and on the 6th and 7th recurved to the northeastward. On the 8th it was some 250 miles west of the Bonin Islands. Little is known regarding the intensity of this storm or of its history subsequent to the 8th.

The second disturbance formed near the Hawaiian Islands about the 5th, and during the next several days moved slowly northward toward the Gulf of Alaska, there merging with a depression which had advanced

¹ Late reports indicate that the last one of these storms may have been of extratropical origin. See article by Rev. José Coronas, S. J., on pp. 581-582.